Moog Contribution for the US Industry Overview paper for AIAA JPC 2005
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Moog successfully integrated, tested and delivered the Xenon Control Assembly (XCA) for the JPL DAWN program in September 2004. The DAWN XCA relies, in part, on the Moog bang-bang regulators and latch valves for flow control and isolation. The DAWN XCA is shown in Figure 1.

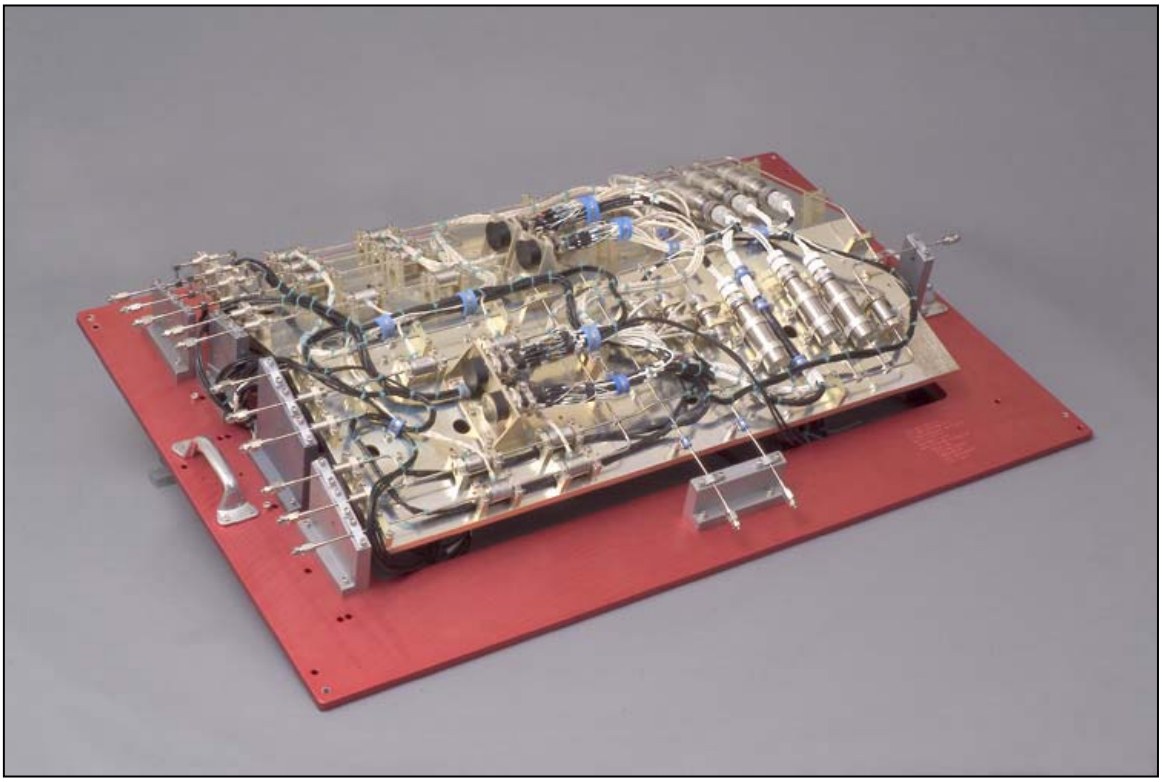

Figure 1. The Moog XCA for JPL DAWN mission controls the flow of xenon to three NSTAR engines.

Under a contract with Northrop Grumman, Moog has completed the assembly and test effort for AFRL Roadrunner Xenon Feed System (XFS), which included the integration of a Busek BHT-200 Hall thruster assembly into the XFS. The Roadrunner XFS, shown in Figure 2, relies on a single Moog Proportional Flow Control Valve (PFCV) to provide active flow control and isolation of the xenon gas to the thruster from the tank pressure of 960 psia to a regulated outlet pressure of 5 psia.

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Moog successfully integrated, tested and delivered the Xenon Control Assembly (XCA) for the JPL DAWN program in September 2004. The DAWN XCA relies, in part, on the Moog bang-bang regulators and latch valves for flow control and isolation.

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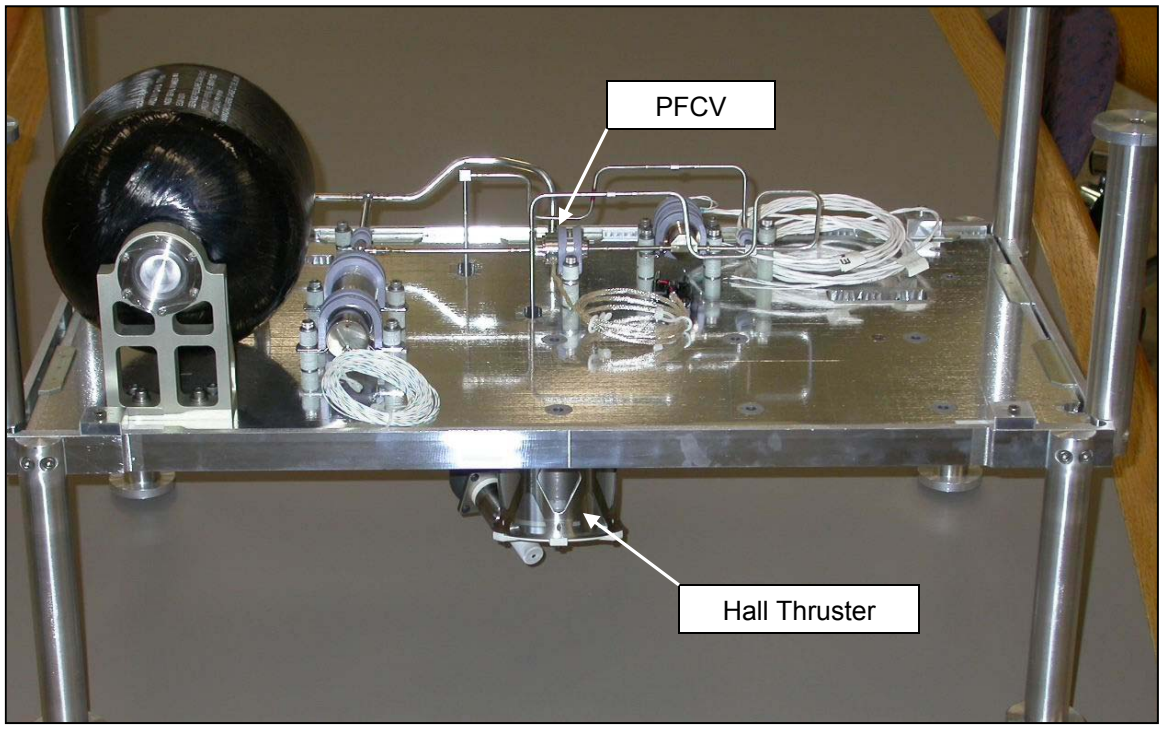

Figure 2. The Moog XFS for the AFRL Roadrunner program includes the Moog Proportional Flow Control Valve and the Busek BHT-200 Thruster. The Roadrunner mission is scheduled for launch later this year

The PFCV design is also continuing qualification life testing as part of the Moog Xenon Flow Rate Controller, shown in Figure 3, with the Aerojet BPT-4000 Hall Thruster for the Lockheed Martin Advanced EHF program. Aerojet is also testing the PFCV in the latest phase of the NEXT program, where it is being used for high and low-pressure active flow control.

Figure 3. A Moog XFC is used to control the flow of xenon to each Hall thruster used on the Advanced EHF satellite.